

Understanding the Performance of the CMS Hadron Calorimeter

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We have studied the performance of the CMS hadron calorimeter using the testbeam facilities at CERN. Two wedges of brass-scintillator calorimeter are exposed to negative and positive beams with momenta between 3 and 300 GeV/c. Light produced in the scintillators were collected using wavelength shifting fibres and read out using Hybrid photodiodes. Each of the wedges had 17 layers of scintillators. In one of these wedges signal from all 17 layers were grouped together while in the other each layer was read out separately. The response, energy resolution, longitudinal and lateral shower profiles are measured and compared with GEANT4 simulation results.

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